

**Construction/Stormwater Pollution Prevention Plan
Technical Review and Comment (Form 1)**

Project Information	Project Name: _____	County: _____
	Plan Submittal Date: _____ Hydrologic Unit Code: _____	
	Project Location Description: _____	
	Latitude and Longitude: _____	
	Civil Township: _____	Quarter: _____
	Section: _____	Township: _____
	Range: _____	
	Project Owner Name: _____	
	Contact: _____	
	Address: _____	
	City: _____	State: _____
	Zip: _____	
	Phone: _____	FAX: _____
	E-Mail: _____	
	Plan Preparer Name: _____	
Affiliation: _____		
Address: _____		
City: _____	State: _____	
Zip: _____		
Phone: _____	FAX: _____	
E-Mail: _____		

Plan Review	Review Date: _____	
	Principal Plan Reviewer: _____	
	Agency: _____	
	Address: _____	
	City: _____	State: _____
	Zip: _____	
	Phone: _____	FAX: _____
	E-Mail: _____	
Assisted By: _____		

<input type="checkbox"/>	PLAN IS ADEQUATE: A comprehensive plan review has been completed and it has been determined that the plan satisfies the minimum requirements and intent of 327 IAC 15-5.
<input type="checkbox"/>	Please refer to additional information included on the following page(s).
<input type="checkbox"/>	Submit Notice of Intent (NOI): <i>Attach a copy of this cover page when submitting the NOI to the Indiana Department of Environmental Management. Construction activities may begin 48 hours following the submittal of the NOI. A copy of the NOI must also be sent to the Reviewing Authority (e.g. SWCD, DNR).</i>
<input type="checkbox"/>	A preliminary plan review has been completed; a comprehensive review will not be completed within the 28-day review period. The reviewing authority reserves the right to perform a comprehensive review at a later date and revisions to the plan may be required at that time to address deficiencies.
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<input type="checkbox"/>	PLAN IS DEFICIENT: Significant deficiencies were identified during the plan review.
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<input type="checkbox"/>	<input type="checkbox"/> Plan Revisions <input type="checkbox"/> Deficient Items should be mailed or delivered to the Principal Plan Reviewer identified in the Plan Review Section above.

Construction/Stormwater Pollution Prevention Plan - Technical Review and Comment (Form 1)

Project Name:	
Date Reviewed:	

Assessment of Stormwater Pollution Prevention Plan (Sections B & C)

Stormwater Pollution Prevention Plan - Construction Component (Section B)

Adequate	Deficient	Not Applicable		
			B	<i>The construction component of the Stormwater Pollution Prevention Plan includes stormwater quality measures to address erosion, sedimentation, and other pollutants associated with land disturbance and construction activities. Proper implementation of the plan and inspections of the construction site are necessary to minimize the discharge of pollutants. The Project Site Owner should be aware that unforeseen construction activities and weather conditions may affect the performance of a practice or the effectiveness of the plan. The plan must be a flexible document, with provisions to modify or substitute practices as necessary.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	Description of potential pollutant sources associated with construction activities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	Sequence describing stormwater quality measure implementation relative to land disturbing activities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	Stable construction entrance locations and specifications (at all points of ingress and egress)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	Sediment control measures for sheet flow areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	Sediment control measures for concentrated flow areas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	Storm sewer inlet protection measure locations and specifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	Runoff control measures (e.g. diversions, rock check dams, slope drains, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	Storm water outlet protection specifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9	Grade stabilization structure locations and specifications
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10	Location, dimensions, specifications, and construction details of each stormwater quality measure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11	Temporary surface stabilization methods appropriate for each season (include sequencing)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12	Permanent surface stabilization specifications (include sequencing)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13	Material handling and spill prevention plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14	Monitoring and maintenance guidelines for each proposed stormwater quality measure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15	Erosion & sediment control specifications for individual building lots

Stormwater Pollution Prevention Plan - Post Construction Component (Section C)

Adequate	Deficient	Not Applicable		
			C	<i>The post construction component of the Stormwater Pollution Prevention Plan includes the implementation of stormwater quality measures to address pollutants that will be associated with the final landuse. Post construction stormwater quality measures should be functional upon completion of the project. Long term functionality of the measures are critical to their performance and should be monitored and maintained.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	Description of pollutants and their sources associated with the proposed land use
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	Sequence describing stormwater quality measure implementation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	Description of proposed post construction stormwater quality measures (Include a written description of how these measures will reduce discharge of expected pollutants)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	Location, dimensions, specifications, and construction details of each stormwater quality measure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5	Description of maintenance guidelines for post construction stormwater quality measures

**Construction/Stormwater Pollution Prevention Plan
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Construction/Stormwater Pollution Prevention Plan Technical Review and Comment (Form 2)

Project Information	Project Name:					County:				
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	Latitude and Longitude:									
	Civil Township:		Quarter:		Section:		Township:		Range:	
	Project Owner Name:									
	Contact:									
	Address:									
	City:		State:		Zip:					
	Phone:		FAX:		E-Mail:					
	Plan Preparer Name:									
	Affiliation:									
	Address:									
	City:		State:		Zip:					
	Phone:		FAX:		E-Mail:					

Plan Review	Review Date:									
	Principal Plan Reviewer:									
	Agency:									
	Address:									
	City:		State:		Zip:					
	Phone:		FAX:		E-Mail:					
	Assisted By:									

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☐ **Plan Revisions** ☐ **Deficient Items** should be mailed or delivered to the Principal Plan Reviewer identified in the Plan Review Section above.

The following guidelines are provided to aid in the process of Stormwater Pollution Prevention Planning. Projects are required to have plan approval prior to earth moving activities. The Hendricks County Soil and Water Conservation District is here to answer any questions or to be of any assistance in areas of conservation. We can be reached at 317-745-2555.

A1 Plan Index showing locations of required items:

The plan index should include a list of the required items in the rule and where they occur in the plan. Plan preparers often have their plan index mirror items in our standard plan review checklist.

A2 11 X 17 inch plat showing building lot numbers/boundaries and road layout/names:

The reduced size plat of the project is intended to be a basic representation of the project layout. At a minimum it should include building lot boundaries, lot numbers, road layout, and road names. It is not intended to be a complete representation of the construction plan or the stormwater pollution prevention plan. The purpose of the reduced plat is primarily to provide staff a simplified layout of the project that can be used as an aide when conducting an inspection of the project site.

The plat should be legible, therefore based on the size of the project it is acceptable to have multiple sheets of 11 X 17.

(This item is not required for single-family residential developments of 4 lots or less and single-family residential strip developments)

A3 Narrative describing project nature and purpose:

The plan should include information regarding the nature and purpose of the project. Typically this information would appear in a narrative; however it is also acceptable for the plan reviewer to determine the nature and purpose of the project from other information contained in the plan.

A4 Vicinity map showing project location:

The plan should include a map that depicts the site in relation to other areas in the city or county and should be sufficient for someone not familiar with the area to find the project site location. Acceptable map types include USGS topographic maps, county road maps, city street maps, custom drawn maps, etc. (as long as they adequately depict the site location).

A5 Legal Description of the Project Site:

The legal description of the project site should be identified to the nearest quarter section and include township and range coordinates, and Civil Township name. While the longitude and latitude coordinates are not a requirement of the plan; the checklist does mention these items to encourage inclusion by the plan preparer.

A6 Location of all lots and proposed site improvements:

Lot boundaries and numbers are required to be shown on the plan. In addition, the plan should show all proposed site improvements, including but not limited to utilities, roads (names, if available), structures, and common areas.

Single lot projects should show the location of any proposed structures.

A7 Hydrologic unit code:

The hydrologic unit code should be identified to the 14 digit code. The code identified in the plan should represent the watershed(s) in which the project is located. The following website can be accessed in order to identify the hydrologic unit code:
<http://129.79.145.5/arcims/statewide/viewer.htm>

A8 Notation of any State or Federal water quality permits:

The plan should identify any permits required related to water quality, such as Construction in a Floodway from DNR, 401 Water Quality Certification from IDEM, 404 permits from US Army Corps of Engineers, etc.

It is not necessary for the project site owner to possess permits applicable to his/her project to receive approval of their plan pursuant to 327 IAC 15-5.

A9 Specific points where stormwater discharge will leave the site:

The plan should clearly identify where stormwater will exit the site. It is not necessary that the location be identified with a note on the plan, unless it is not clear from the topographic or storm drainage system information.

A10 Location & name of all wetlands, lakes, & water courses on and adjacent to the site:

This information is important in evaluating the proposed stormwater pollution prevention measures to insure that they are adequate and appropriate to reduce the impact to natural areas associated with the project site. Identification of nearby watercourses and lakes may place an additional importance on sediment control in a particular area of the project.

A11 Identify all Receiving Waters:

The plan should identify all named streams, or other water bodies that will potentially receive runoff from the project site. If the discharge is to a municipal storm sewer, the plan should identify the owner of the storm drain system as well as the ultimate receiving water for the storm drain system.

A12 Identification of potential discharges to groundwater:

The plan should include the location of all areas where stormwater may be potentially discharged to groundwater. These areas include sinkholes or uncapped abandoned wells, which may be located on the project site or downstream of the project site and could potentially be impacted by stormwater discharge. It could also include stormwater infiltration practices such as drywells, which may be planned as part of the project. These areas need to be clearly located in the plan, with adequate protection measures to prevent contaminated runoff from entering the groundwater. Abandoned wells should be properly capped.

A13 100 Year Floodplains, floodways, and floodway fringes:

This information is relevant to the project if a stream is located on or near the property. If applicable to the project site, the plan should at a minimum include a discussion of their existence and to further extent delineation on the plan. If there is not a stream in close proximity, it is not a critical item, if not addressed.

A14 Pre-construction and post construction estimate of Peak Discharge:

This information is a required element of the plan and has been included to place emphasis on the impact projects can have related to runoff quantities and velocities.

There are several acceptable methods of calculating these figures, including the rational method, TR55, etc.

(This item is not required for single-family residential developments of 4 lots or less and single-family residential strip developments)

A15 Adjacent landuse, including upstream watershed:

This information provides a basis to evaluate the overall project including potential downstream impacts, but also other contributing factors that are discharging onto the project site. It is important to have an understanding of the impact the project may have on surrounding properties and sensitive areas, but also have an understanding of the runoff and other potential pollutants that may be discharged from areas in the watershed above the project.

The intent of this element is to identify the types of landuse, such as single-family residential, multi-family residential, commercial, agricultural, forested, etc.

A16 Locations and approximate boundaries of all disturbed areas:

The plan should identify the construction limits of the project. The extent of disturbance has a profound impact on what practices may be necessary to adequately control erosion and the resulting sediment. If disturbance boundaries are not identified inside of the property boundary, the plan reviewer should consider the entire site as being disturbed for the purposes of evaluating the proposed stormwater pollution prevention measures.

A17 Identification of existing vegetative cover:

The plan should delineate the boundaries of major vegetative cover types, such as grass, brush, trees, etc. It is not necessary for the plan to identify individual vegetative species.

A18 Soils map including descriptions and limitations:

Each plan should provide a soil map for the project site. The map should be accompanied by descriptions of each soil type that occurs on the site. A legible copy of the appropriate soil map from the USDA soil survey for the county is sufficient. Boring logs and a geotechnical report or site mapping by a soil scientist should also be considered acceptable means of satisfying this requirement.

In addition to a soil map and a description of the soil types, the plan should include a discussion of the soil characteristics and limitations associated with the project site and the measures that will be integrated into the project to overcome any limitations. For example, if sanitary sewer does not service the site and on-site septic systems will be used for waste disposal, the plan

preparer should provide information concerning the suitability of the soil and the type of systems that will be required to overcome soil limitations.

A19 Locations, size and dimensions of proposed stormwater systems:

All proposed stormwater systems, including swales, channels, piping, culverts, etc. should be clearly shown in the plan. In addition to location, the plan should include the size and dimensions of the specific stormwater systems.

A20 Plan for any off-site construction activities associated with this project:

Any off-site services such as sanitary sewers, waterlines, other utilities, roads, etc. which are off of the proposed project site, but are necessary to provide service to the project must be included in the plan submitted for the project, if the project site owner is responsible for paying for the off-site service.

If the utility or local government is paying for the construction of the off-site tie-in, then they do not need to be included as part of the project submittal, but should be submitted separately, if the disturbance will be 1 acre or more.

It is important that the project site owner realize that all land disturbance associated with their project is subject to compliance with the rule. The same burden of compliance is necessary for these off-site areas as they are for the project site itself. If there are not off-site activities, or others are conducting the off-site activities, a simple note to that affect should be sufficient to satisfy this requirement.

A21 Locations of proposed soil stockpiles, borrow and/or disposal areas:

Similar to item A20, this information needs to be submitted as part of the plan. Often times borrow and disposal areas occur off of the project site. Unless these areas are commercially operated facilities, they need to be included as part of the plan submittal. These areas must also be included when they occur on site. If there are no stockpile, borrow or disposal areas planned, a simple note to that affect should be sufficient to satisfy this requirement.

A22 Existing site topography at an interval appropriate to show detailed drainage patterns:

This information is critical to properly evaluate the adequacy of the proposed stormwater pollution prevention measures. Site topography may be depicted in multiple ways such as continuous contour lines and spot elevations (as long as there are a sufficient number of locations to be able to visualize the site topography). A graphical profile of the project may also be acceptable for highway, road, utility and other lineal projects.

A23 Proposed final topography at an interval appropriate to show detailed drainage patterns:

This information is critical to properly evaluate the adequacy of the proposed stormwater pollution prevention measures. Site topography may be depicted in multiple ways such as continuous contour lines and spot elevations (as long as there are a sufficient number of locations to be able to visualize the site topography). A graphical profile of the project may also be acceptable for highway, road, utility and other lineal projects.

Assessment of Stormwater Pollution Prevention Plan-Construction Component (Section B)

B1 Description of potential pollutant sources associated with the construction activities:

This item is included in the rule to place an emphasis on identification of pollutants that are associated with construction activity. In the past, the emphasis has been on sediment reduction; however the rule requires the plan preparer to identify other potential pollutants and their sources. Potential pollutant sources include material and fuel storage areas, fueling locations, exposed soils, leaking vehicles and equipment, etc.

To satisfy this item, the plan needs to contain a written description of the expected pollutants that could enter stormwater during the construction operation, and where those potential pollutants might be generated. In addition, the plan preparer should include a discussion of measures or operational activities that will be initiated to minimize the danger of pollutants entering stormwater.

(This item is not required for single-family residential developments of 4 lots or less and single-family residential strip developments)

B2 Sequence describing stormwater quality measure implementation relative to land disturbing activities:

Each plan should contain multiple stormwater pollution prevention measures. All measures will not be installed at the same time. Various measures will be installed at different times throughout the construction process. Some will be installed prior to any land disturbance, such as the construction entrance and some initial perimeter sediment control measures. Others may not be necessary until work at the site progresses to an area where they are necessary. Each proposed measure should be identified in the sequence as to when it is to be installed in relation to land disturbing activities. Specific dates of installation are not necessary or the intent of this requirement.

B3 Stable construction entrance locations and specifications:

All projects with the exception of some lineal projects and residential strip developments should have a stable construction entrance. All access points to a project must have a stabilized entrance. The plan should clearly show the location of all proposed stable entrance locations, as well as specifications and construction details regarding how the stable entrance is to be constructed and maintained.

B4 Sediment control measures for sheet flow areas:

This item is intended to evaluate the areas of the site where runoff will be primarily in a sheet flow condition. The reviewer should evaluate these areas and the proposed sediment control measures to insure that the proposed measures are adequate for the situation. Each proposed measure must be accompanied by construction details and specifications.

B5 Sediment control measures for concentrated flow areas:

This item is intended to evaluate the areas of the site where runoff will be primarily in a concentrated flow condition. The reviewer should evaluate these areas and the proposed sediment control measures to insure that the proposed measures are adequate for the situation. Each proposed measure must be accompanied by construction details and specifications.

B6 Storm sewer inlet protection measure locations and specifications:

If surface inlets, including curb inlets, are present, the plan should include protection measures to prevent sediment from entering the storm drain system. The proposed practices should be appropriate for the type of inlet it is proposed to protect. Alternate measures, such as seeding and curbside protection may be considered as adequate protection, if sufficient to prevent sediments from entering the street and curb inlets. Each proposed measure must be accompanied by construction details and specifications.

B7 Runoff control measures:

This item refers to measures such as diversions, rock check dams, slope drains, etc. These types of measures may not be necessary on every project. However, if the plan reviewer feels that they are necessary, the plan should be evaluated as to whether the issue was adequately addressed in the plan. Each proposed measure must be accompanied by construction details and specifications.

B8 Stormwater outlet protection specifications:

All stormwater discharge locations need to be adequately protected to prevent scour erosion. The plan should specify protection measures appropriate for the situation. Each proposed measure must be accompanied by construction details and specifications.

B9 Grade Stabilization structure locations and specifications:

This item refers to measures such as rock chutes, toe wall and drop structures, etc. These types of measures may not be necessary on every project. However, if the plan reviewer feels that they are necessary, the plan should be evaluated as to whether the issue was adequately addressed in the plan. Each proposed measure must be accompanied by construction details and specifications.

B10 Location, dimensions, specifications and construction details of each stormwater quality measure:

Each proposed measure should be clearly located in the plan. Some plans may not provide the location in a pictorial format on the plan drawings, but may provide clear text or a table to depict where various practices should be located. This should be adequate to satisfy the requirement as long as the reviewer can determine the location in the plan. Each proposed measure must also be accompanied by construction details and specifications.

Temporary or permanent surface stabilization is required on any bare or thinly vegetated area that is scheduled or likely to remain inactive for a period of 15 days or more.

B11 Temporary surface stabilization methods appropriate for each season:

The plan should provide detailed specifications, including sequencing information, regarding which stabilization methods are to be employed. There should be multiple methods, as the

various seasons need to be considered. Even if the project is expected to be short lived, these seasonal options must be supplied. Delays are common in the construction industry and projects take longer than expected. The plan needs to cover these contingencies.

For applications that include seeding, the plan preparer should provide application rates for soil amendments and seed mixtures. The type and application rate for anchored mulch.

B12 Permanent surface stabilization specifications:

The permanent stabilization methods should be clearly specified, including sequencing information, in the plan.

The plan preparer should provide application rates for soil amendments and seed mixtures and the type and application rate for anchored mulch.

B13 Material handling and spill prevention plan:

The plan should include a list of expected materials that may be present on the site during construction operations. A written description of how these materials will be handled to minimize the potential the materials will enter stormwater runoff should accompany the list of materials. There should also be procedures directing the contractor on the required response to any spills that may occur during construction operations.

(This item is not required for single-family residential developments of 4 lots or less and single-family residential strip developments)

B14 Monitoring and maintenance guidelines for each proposed pollution prevention measure:

Each proposed measure must be accompanied by instructions for evaluating the practice for maintenance needs once installed.

The maintenance guidelines for the project should also include instructions on how the monitoring and maintenance procedures are to be carried out. The Phase II version of the rule requires that the project site owner or their representative, knowledgeable in erosion and sediment control, inspect the site for stormwater pollution prevention deficiencies at least weekly and again within 24 hours of every ½ inch rain event. The plan should clearly describe these required maintenance procedures.

B15 Erosion & Sediment control specifications for individual building lots:

If the project has multiple lots where independent activities are likely to occur, the plan should provide clear guidance as to the required minimum standards for erosion and sediment control during construction operations on the individual lots. The Phase II version of the rule places specific requirements on activities conducted on individual building lots. The minimum standards in the plan should meet the minimum lot requirements established in Section 7.5 of the rule, and should follow the standards set forth in the "Erosion and Sediment Control for Individual Building Lots" brochure available on the Division of Soil Conservation's website. The plan reviewer should also take into account the relative size of the lots and steepness of the lots when determining whether provisions in the plan appear to be adequate.

Reviewing plan for Rule 5 post construction requirements

There are several new requirements in the revised version of 327 IAC 15-5. Several of these new requirements involve the potential pollutants that will be generated from the completed project. Every landuse has certain pollutants that are generated simply based on the facility or the activities being conducted on the property. The intent of the Clean Water Act rules established by US EPA is to minimize pollutants generated from new construction projects, including the post construction pollutants that will be generated by the proposed landuse change. 327 IAC 15-5 has incorporated requirements to address these issues.

The post construction stormwater pollution prevention plan must include the implementation of stormwater quality measures to address pollutants that will be associated with the final landuse of the project. Post construction stormwater quality measures should be functional upon completion of the project. Long-term functionality of the measures is critical to their performance and should be monitored and maintained. The intent of these provisions in the regulation is not to just simply plug in practices to treat the expected post construction pollutants. Emphasis should be on designing the project, or modifying the design of a project, to minimize the generation of pollutants in the first place. It will be impossible for current and future landowners to eliminate all potential pollutants. Once design considerations have been made to minimize the generation, then additional practices may need to be added to the project to treat the runoff and trap the pollutants that could not be prevented. The main objective is that everyone realizes that all types of landuse carry with them pollutants and pollutant sources, and that it is possible to modify the project site design to reduce the pollutant sources and, with additional treatment practices, reduce the amount of pollutants potentially impacting the environment.

Stormwater Pollution Prevention Plan – Post Construction Component (Section C)

(This section of items is not required for single-family residential developments of 4 lots or less and single-family residential strip developments)

C1 Description of pollutants and their sources associated with the proposed land use.

(This checklist item relates to 327 IAC 15-5-6.5(a)(8)(A) A description of potential pollutant sources from the proposed land use, which may reasonably be expected to add a significant amount of pollutants to stormwater discharges.)

The plan should include a narrative description that discusses the proposed project and the expected pollutants that typically are generated by this type of landuse. The description should also discuss the sources of these pollutants within the finished project site (e.g., oil, grease, antifreeze, brake fluid, brake dust, rubber fragments, gasoline, diesel fuel and other hydrocarbons, and metals from vehicular and other sources, grit (sediment) from wearing of the road surface and falling or washing off of vehicles, trash (including bacteria and other biological agents contained in the trash) from littering and other types of improper disposal or storage, and elevated receiving water temperatures from stormwater runoff contact with impervious surfaces). This is a critical element of the rule requirements, and must be included in a plan submitted on, or after, the effective date of the revised rule.

C2 Sequence describing stormwater quality measure implementation.

(This checklist item relates to 327 IAC 15-5-6.5(a)(8)(D) A sequence describing when each post construction stormwater quality measure will be installed.)

The plan should provide a sequence of when the proposed post construction stormwater quality measures will be installed. Pay close attention to practices, like basins or ponds that could be utilized during construction for sediment control. They should not be installed late in the project simply to reduce cleanout burdens.

C3 Description of proposed post construction stormwater quality measures.

(This checklist item relates to 327 IAC 15-5-6.5(a)(8)(C) A description of measures that will be installed to control pollutants in stormwater discharges that will occur after construction activities have been completed. Such practices include infiltration of run-off, flow reduction by use of open vegetated swales and natural depressions, buffer strip and riparian zone preservation, filter strip creation, minimization of land disturbance and surface imperviousness, maximization of open space, and stormwater retention and detention ponds, 327 IAC 15-5-6.5(a)(8)(E) Stormwater quality measures that will remove or minimize pollutants from stormwater run-off, and 327 IAC 15-5-6.5(a)(8)(F) Stormwater quality measures that will be implemented to prevent or minimize adverse impacts to stream and riparian habitat.

Items C, E & F from the rule listed above require similar information and may be provided in a single narrative description within the plan. The reviewer needs to be familiar with each of these requirements and be conscious that multiple requirements may be satisfied within a single description.

The plan should include a narrative description that discusses how the project was designed to minimize the generation of post construction pollutants, and how the proposed post construction stormwater quality measures will improve the quality of the stormwater discharge from the finished project. Many times, it will be possible for a project to comply without installing elaborate and expensive treatment systems. Reducing impervious surfaces and increasing vegetative surfaces to trap pollutants may be sufficient. Sometimes, management practices, such as more frequent street sweeping or reduced fertilizer and pesticide applications, may have a significant positive impact on stormwater quality. Once again, this description is a critical requirement of the rule, and must be included in the plan

If a stream is located on, or near, the project site, the plan preparer should provide a narrative description of what measures were specifically implemented or how the project was designed to protect the stream from post construction pollutants.

Remember, the reviewer emphasis should be on encouraging project design that minimizes the generation of the post construction pollutants. The reviewer should take into account the overall design of the project and how this design style may benefit the post construction water quality. The plan preparer should identify these design considerations in the narrative description, identifying the expected environmental benefits

C4 Location, dimensions, specifications and construction details of each stormwater quality measure. *(This checklist item relates to 327 IAC 15-5-6.5(a)(8)(B) Location, dimensions, detailed specifications, and construction details of all post construction stormwater quality measures.)*

All proposed post construction stormwater quality measures should be clearly shown on the plan, and should include specifications and construction details similar to those that have long been required for erosion and sediment control measures during construction

C5 Description of maintenance guidelines for proposed post construction water quality measures. *(This checklist item relates to 327 IAC 15-5-6.5(a)(8)(G) A narrative description of the maintenance guidelines for all post construction stormwater quality measures to facilitate their proper long term function. This narrative description shall be made available to future parties who will assume responsibility for the operation and maintenance of the post construction stormwater quality measures.)*

All proposed measures must be accompanied by guidelines for monitoring and maintenance. If manufactured products are involved, the manufacturer should be able to provide detailed information about monitoring and maintenance procedures and frequencies. The plan should also identify the parties or individuals that will be responsible for the future long-term maintenance. This identification does not need to be a name of an individual, as they may not be known at the time of plan submittal. A description of the entity (e.g., homeowner’s association, name of the government department, if the measures will be turned over to the local government, etc.) should be sufficient.



Indiana Department of Environmental Management
Notice of Intent (NOI)
Storm Water Runoff Associated with Construction Activity
NPDES General Permit Rule 327 IAC 15-5 (**Rule 5**)

Submission of this Notice of Intent letter constitutes notice that the project site owner is applying for coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit Rule for Storm Water Discharges Associated with Construction Activity. Permitted project site owners are required to comply with all terms and conditions of the General Permit Rule 327 IAC 15-5 (Rule 5).

Check the type of Submittal: ☐ Initial ☐ Amendment, ☐ Renewal ☐ Extension

Project Name and Location:

- Project Name: _____ County: _____
- Brief Description of Project Location: _____
- Latitude _____ **and** Quarter _____ Section _____
- Longitude _____ Township _____ Range _____
- Does ☐ all or ☐ part of this project lie within the jurisdictional boundaries of a Municipal Separate Storm Sewer System (MS4) as defined in 327 IAC 15-13? ☐ Yes ☐ No If yes, please name the MS4(s): _____

Project Site Owner and Project Contact Information:

- Company Name (If Applicable): _____
- Project Site Owner's Name (An Individual): _____ Title/Position: _____
- Address: _____
- City: _____ State: _____ Zip: _____
- Phone: _____ FAX: _____ E-Mail Address (If Available): _____
- Ownership Status (check one): Governmental Agency: ☐ Federal ☐ State ☐ Local
Non-Governmental: ☐ Public ☐ Private ☐ Other (Explain): _____
- Contact Person: _____ Affiliation with Project Site Owner: _____
- Address (if different from above): _____
- City: _____ State: _____ Zip: _____
- Phone: _____ FAX: _____ E-Mail Address (If Available): _____

Project Description:

☐ Residential-Single Family ☐ Residential-Multi-Family ☐ Commercial ☐ Industrial ☐ Other _____

Discharge Information:

- Name of Receiving Water: _____
(If applicable, name of municipal operator of storm sewer. Please note that even if a retention pond is present on the property, the name of the nearest possible receiving water is required).

Project Acreage:

- Total Acreage: _____ Acres Proposed Acreage to be Disturbed: _____ Acres
- Total Impervious Surface Area (Estimated for Completed Project): _____ Square Feet

Timetable (Maximum of 5 Years):

- Start Date: _____ and Estimated End Date for all Land Disturbing Activity: _____

(Continued on Reverse Side)

Construction Plan Certification:

By signing this Notice of Intent letter, I certify the following:

- A. The storm water quality measures included in the Construction Plan comply with the requirements of 327 IAC 15-5-6.5, 327 IAC 15-5-7, and 327 IAC 15-5-7.5;
- B. the storm water pollution prevention plan complies with all applicable federal, state, and local storm water requirements;
- C. the measures required by section 7 and 7.5 of this rule will be implemented in accordance with the storm water pollution prevention plan;
- D. if the projected land disturbance is One (1) acre or more, the applicable Soil and Water Conservation District or other entity designated by the Department, has been sent a copy of the Construction Plan for review;
- E. storm water quality measures beyond those specified in the storm water pollution prevention plan will be implemented during the life of the permit if necessary to comply with 327 IAC 15-5-7; and
- F. implementation of storm water quality measures will be inspected by trained individuals.

In addition to this form, I have enclosed the Following:

- ☐ Verification by the reviewing agency of acceptance of the Construction Plan.
- ☐ Proof of publication in a newspaper of general circulation in the affected area that notified the public that a construction activity is to commence, including all required elements contained in 327 IAC 15-5-5 (9).
- ☐ \$100 check or money order payable to the Indiana Department of Environmental Management. If the project lies solely within the permitted jurisdiction of an MS4 and is regulated by the MS4 under 327 IAC 15-13 – a fee is not required with submittal of this Notice of Intent.

A permit issued under 327 IAC 15-5 is granted by the commissioner for a period of five (5) years from the date coverage commences. Once the five (5) year permit term duration is reached, a general permit issued under this rule will be considered expired, and, as necessary for construction activity continuation, a new Notice of Intent letter would need to be submitted ninety (90) days prior to the termination of coverage.

Project Site Owner Responsibility Statement:

By signing this Notice of Intent letter, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information or violating the provisions of 327 IAC 15-5, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Project Owner _____

Signature of Project Owner _____ Date: _____

This Notice of Intent must be signed by an individual meeting the signatory requirements in 327 IAC 15-4-3(g)

**Mail this form to: Indiana Department of Environmental Management
Office of Water Quality, Storm Water (Rule 5) Desk
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015**

327 IAC 15-5-6 (a) also requires a copy of the completed Notice of Intent letter be submitted to the local Soil and Water Conservation District or other entity designated by the Department, where the land disturbing activity is to occur.

Questions regarding the development of the Construction Plan and/or field implementation of 327 IAC 15-5 may be directed to your local Soil and Water Conservation District office or the Department of Natural Resources at 317-233-3870. Questions regarding the Notice of Intent may be directed to the Rule 5 contact person at 317/233-1864 or 800/451-6027 ext 31864.

Many of you have been asking how to find the Hydrologic Unit code. The following information should help you:

1) Go to this website: <http://129.79.145.5/arcims/statewide/viewer.htm>
You will see a map of Indiana.

2) Zoom to your site on the map.

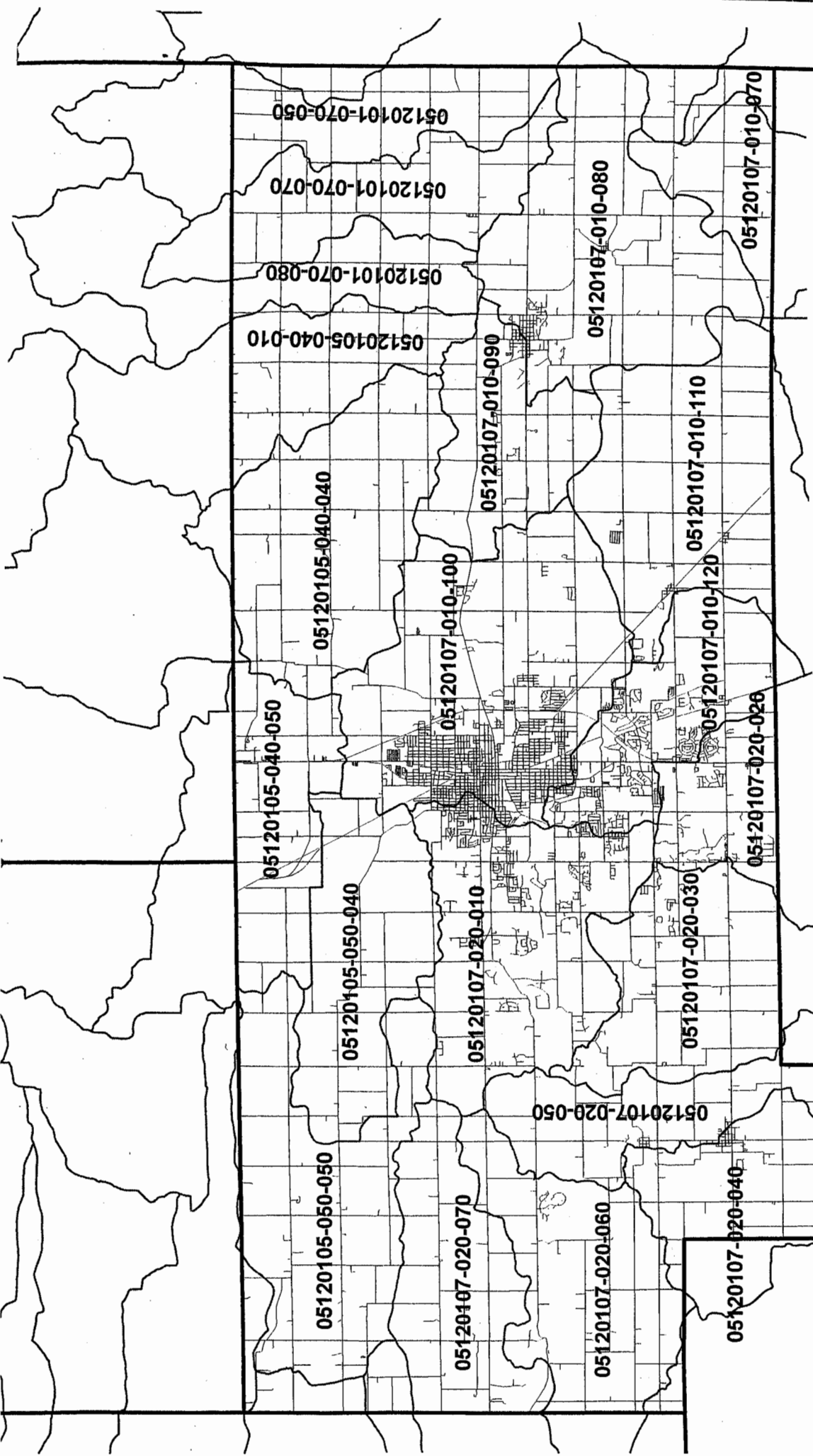
3) Click on the "Hydrology" folder on the right.

4) Scroll down and click on "Watershed HUC14." You may see some green lines appear on the map, which are the borders of the watershed.

5) Also to the right, above the folders, find the drop-down menu called "Select active layer." Select "Watershed HUC14" from that menu.

6) In the toolbar above the map, click on the icon of the letter "i" inside a black circle.

7) On the map, click on a point in the center of your site. A new window will open. Find the box labeled "HUC_14." The number in this box is the 14-digit Hydrologic Unit code to be included in your construction plan.



Hydrologic Unit Codes (HUC) for Howard County

[Signature]

NPDES GENERAL PERMIT RULE PROGRAM

(g) Signatory requirements shall be as follows:

(1) All reports required by this article and other information requested by the commissioner shall be signed by a person described as follows, or by a duly authorized representative of that person:

(A) For a corporation, by a responsible corporate officer. As used in this section, "responsible corporate officer" means:

- (i) a president, secretary, treasurer, any vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or
- (ii) the manager of one (1) or more manufacturing, production, or operating facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding twenty-five million dollars (\$25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(B) For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.

(C) For a municipality, state, federal, or other public agency or political subdivision thereof, by either a principal executive officer or ranking elected official.

(2) A person is a duly authorized representative only if:

(A) the authorization is made in writing by a person described under subdivision (1);

(B) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(C) the written authorization is submitted to the commissioner.

(3) Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

(h) Except for data determined to be confidential under 327 IAC 12 [327 IAC 12 was repealed filed Mar 9, 2000, 7:47 a.m.: 23 IR 1637. See 327 IAC 12.1.], all reports prepared in accordance with the terms of the applicable general permit rule shall be available for public inspection at the offices of the Indiana department of environmental management and the U.S. Environmental Protection Agency Regional Administrator. As required by the Federal Act, information contained in the NOI letter and effluent data shall not be considered confidential.

(i) The Indiana Environmental Management Act at IC 13-7-13-3(b) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under the applicable general permit rule, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than ten thousand dollars (\$10,000) per violation, or by imprisonment for not more than six (6) months per violation, or by both. The Federal Act, as well as IC 13-7-13-3 and IC 35-50-3-3, provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this article shall, upon conviction, be punished by a fine of not more than ten thousand dollars (\$10,000) per violation, or by imprisonment for not more than one hundred eighty (180) days per violation, or by both. (*Water Pollution Control Board; 327 IAC 15-4-3; filed Aug 31, 1992, 5:00 p.m.: 16 IR 21*)

Rule 5. Storm Water Run-Off Associated with Construction Activity

327 IAC 15-5-1 Purpose

Authority: IC 13-14-8; IC 13-14-9; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3

Affected: IC 13-11-2; IC 13-18-4

Sec. 1. The purpose of this rule is to establish requirements for storm water discharges from construction activities of one (1) acre or more so that the public health, existing water uses, and aquatic biota are protected. (*Water Pollution Control Board; 327*

IAC 15-5-1; filed Aug 31, 1992, 5:00 p.m.; 16 IR 23; errata, 16 IR 898; readopted filed Jan 10, 2001, 3:23 p.m.; 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.; 27 IR 833)

327 IAC 15-5-2 Applicability of general permit rules

Authority: IC 13-14-8; IC 13-14-9; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3

Affected: IC 13-11-2; IC 13-18-4; IC 14-34

Sec. 2. (a) The requirements under this rule apply to all persons who:

- (1) do not obtain an individual NPDES permit under 327 IAC 15-2-6;
- (2) meet the general permit rule applicability requirements under 327 IAC 15-2-3; and
- (3) are involved in construction activity, except operations that result in the land disturbance of less than one (1) acre of total land area as determined under subsection (h) and are not part of a larger common plan of development or sale.

(b) The requirements under this rule do not apply to persons who are involved in:

- (1) agricultural land disturbing activities; or
- (2) forest harvesting activities.

(c) The requirements under this rule do not apply to the following activities, provided other applicable permits contain provisions requiring immediate implementation of soil erosion control measures:

- (1) Landfills that have been issued a certification of closure under 329 IAC 10.
- (2) Coal mining activities permitted under IC 14-34.
- (3) Municipal solid waste landfills that are accepting waste pursuant to a permit issued by the department under 329 IAC 10 that contains equivalent storm water requirements, including the expansion of landfill boundaries and construction of new cells either within or outside the original solid waste permit boundary.

(d) The project site owner has the following responsibilities:

- (1) Complete a sufficient notice of intent letter.
- (2) Ensure that a sufficient construction plan is completed and submitted in accordance with section 6 of this rule.
- (3) Ensure compliance with this rule during:
 - (A) the construction activity; and
 - (B) implementation of the construction plan.
- (4) Notify the department with a sufficient notice of termination letter.
- (5) Ensure that all persons engaging in construction activities on a permitted project site comply with the applicable requirements of this rule and the approved construction plan.

(e) For off-site construction activities that provide services (for example, road extensions, sewer, water, and other utilities) to a permitted project site, these off-site activity areas must be considered a part of the permitted project site when the activity is under the control of the project site owner.

(f) For an individual lot where land disturbance is expected to be one (1) acre or more and the lot lies within a project site permitted under this rule, the individual lot owner shall:

- (1) complete his or her own notice of intent letter; and
- (2) ensure that a sufficient construction plan is completed and submitted in accordance with section 6 of this rule.

(g) For an individual lot where the land disturbance is less than one (1) acre and the lot lies within a project site permitted under this rule, the individual lot operator shall be in accordance with the following:

- (1) Comply with:
 - (A) the provisions and requirements of the plan developed by the project site owner; and
 - (B) section 7.5 of this rule.
- (2) Does not need to submit a notice of intent letter and construction plans.

(h) Multilot project sites are regulated by this rule in accordance with the following:

- (1) A determination of the area of land disturbance shall be calculated by adding the total area of land disturbance for improvements, such as roads, utilities, or common areas, and the expected total disturbance on each individual lot, as determined by the following:

- (A) For a single-family residential project site where the lots are one-half (0.5) acre or more, one-half (0.5) acre of land disturbance must be used as the expected lot disturbance.

(B) For a single-family residential project site where the lots are less than one-half (0.5) acre in size, the total lot must be calculated as being disturbed.

(C) To calculate lot disturbance on all other types of project sites, such as industrial and commercial project sites, the following apply:

(i) Where lots are one (1) acre or greater in size, a minimum of one (1) acre of land disturbance must be calculated as the expected lot disturbance.

(ii) Where the lots are less than one (1) acre in size, the total lot must be calculated as being disturbed.

(2) For purposes of this rule, strip developments:

(A) are considered as one (1) project site; and

(B) must comply with this rule;

unless the total combined disturbance on all individual lots is less than one (1) acre and is not part of a larger common plan of development or sale.

(i) Submittal of a notice of intent and construction plans is not required for construction activities associated with a single-family residential dwelling disturbing less than five (5) acres when the dwelling is not part of a larger common plan of development or sale. Provisions in section 7(b)(1) through 7(b)(5), 7(b)(10) through 7(b)(17), 7(b)(19), and 7(b)(20) of this rule shall be complied with throughout construction activities and until the areas are permanently stabilized.

(j) The department may waive the permit requirements under this rule for construction activities that disturb less than five (5) acres where the waiver applicant determined by the commissioner certifies that:

(1) a total maximum daily load (TMDL) for the pollutants of concern from storm water discharges associated with construction activity indicates that controls on construction site discharges are not needed to protect water quality; or

(2) in receiving waters that do not require a TMDL study, an equivalent analysis demonstrates water quality is not threatened by storm water discharges, and it has been determined that allocations for the pollutants of concern from the construction site discharges are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety.

(Water Pollution Control Board; 327 IAC 15-5-2; filed Aug 31, 1992, 5:00 p.m.: 16 IR 23; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 833)

327 IAC 15-5-3 General permit rule boundary

Authority: IC 13-14-8; IC 13-14-9; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3

Affected: IC 13-11-2; IC 13-18-4

Sec. 3. This general permit covers all lands within Indiana. *(Water Pollution Control Board; 327 IAC 15-5-3; filed Aug 31, 1992, 5:00 p.m.: 16 IR 23; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 834)*

327 IAC 15-5-4 Definitions

Authority: IC 13-14-8; IC 13-14-9; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3

Affected: IC 13-11-2; IC 14-32; IC 14-34

Sec. 4. In addition to the definitions contained in IC 13-11-2, 327 IAC 1, 327 IAC 5, and 327 IAC 15-1-2, the following definitions apply throughout this rule:

(1) "Agricultural conservation practices" means practices that are constructed on agricultural land for the purposes of controlling soil erosion and sedimentation. These practices include grass waterways, sediment basins, terraces, and grade stabilization structures.

(2) "Agricultural land disturbing activity" means tillage, plowing, cultivation, or harvesting operations for the production of agricultural or nursery vegetative crops. The term also includes pasture renovation and establishment, the construction of agricultural conservation practices, and the installation and maintenance of agricultural drainage tile. For purposes of this rule, the term does not include land disturbing activities for the construction of agricultural related facilities, such as:

(A) barns;

(B) buildings to house livestock;

(C) roads associated with infrastructure;

- (D) agricultural waste lagoons and facilities;
- (E) lakes and ponds;
- (F) wetlands; and
- (G) other infrastructure.
- (3) "Commissioner" refers to the commissioner of the department of environmental management.
- (4) "Construction activity" means land disturbing activities and land disturbing activities associated with the construction of infrastructure and structures. This term does not include routine ditch or road maintenance or minor landscaping projects.
- (5) "Construction plan" means a representation of a project site and all activities associated with the project. The plan includes the location of the project site, buildings and other infrastructure, grading activities, schedules for implementation, and other pertinent information related to the project site. A storm water pollution prevention plan is a part of the construction plan.
- (6) "Construction site access" means a stabilized stone surface at all points of ingress or egress to a project site for the purpose of capturing and detaining sediment carried by tires of vehicles or other equipment entering or exiting the project site.
- (7) "Contractor" or "subcontractor" means an individual or company hired by the project site or individual lot owner, their agent, or the individual lot operator to perform services on the project site.
- (8) "Department" refers to the department of environmental management.
- (9) "Developer" means:
 - (A) any person financially responsible for construction activity; or
 - (B) an owner of property who sells or leases, or offers for sale or lease, any lots in a subdivision.
- (10) "DNR-DSC" means the division of soil conservation of the department of natural resources.
- (11) "Erosion" means the detachment and movement of soil, sediment, or rock fragments by water, wind, ice, or gravity.
- (12) "Erosion and sediment control measure" means a practice, or a combination of practices, to control erosion and resulting sedimentation.
- (13) "Erosion and sediment control system" means the use of appropriate erosion and sediment control measures to minimize sedimentation by first reducing or eliminating erosion at the source and then, as necessary, trapping sediment to prevent it from being discharged from or within a project site.
- (14) "Final stabilization" means the establishment of permanent vegetative cover or the application of a permanent nonerosive material to areas where all land disturbing activities have been completed and no additional land disturbing activities are planned under the current permit.
- (15) "Grading" means the cutting and filling of the land surface to a desired slope or elevation.
- (16) "Impervious surface" means surfaces, such as pavement and rooftops, which prevent the infiltration of storm water into the soil.
- (17) "Individual building lot" means a single parcel of land within a multiparcel development.
- (18) "Individual lot operator" means a contractor or subcontractor working on an individual lot.
- (19) "Individual lot owner" means a person who has financial control of construction activities for an individual lot.
- (20) "Land disturbing activity" means any manmade change of the land surface, including removing vegetative cover that exposes the underlying soil, excavating, filling, transporting, and grading.
- (21) "Larger common plan of development or sale" means a plan, undertaken by a single project site owner or a group of project site owners acting in concert, to offer lots for sale or lease; where such land is contiguous, or is known, designated, purchased or advertised as a common unit or by a common name, such land shall be presumed as being offered for sale or lease as part of a larger common plan. The term also includes phased or other construction activity by a single entity for its own use.
- (22) "Measurable storm event" means a precipitation event that results in a total measured precipitation accumulation equal to, or greater than, one-half (0.5) inch of rainfall.
- (23) "MS4 area" means a land area comprising one (1) or more places that receives coverage under one (1) NPDES storm water permit regulated by 327 IAC 15-13 or 327 IAC 5-4-6(a)(4) and 327 IAC 5-4-6(a)(5).
- (24) "MS4 operator" means the person responsible for development, implementation, or enforcement of the minimum control measures for a designated MS4 area regulated under 327 IAC 15-13.
- (25) "Municipal separate storm sewer system" or "MS4" has the same meaning set forth at 327 IAC 15-13-5(42).
- (26) "Peak discharge" means the maximum rate of flow during a storm, usually in reference to a specific design storm event.
- (27) "Permanent stabilization" means the establishment, at a uniform density of seventy percent (70%) across the disturbed

area, of vegetative cover or permanent nonerosive material that will ensure the resistance of the soil to erosion, sliding, or other movement.

(28) "Phasing of construction" means sequential development of smaller portions of a large project site, stabilizing each portion before beginning land disturbance on subsequent portions, to minimize exposure of disturbed land to erosion.

(29) "Project site" means the entire area on which construction activity is to be performed.

(30) "Project site owner" means the person required to submit the NOI letter under this article and required to comply with the terms of this rule, including either of the following:

(A) A developer.

(B) A person who has financial and operational control of construction activities and project plans and specifications, including the ability to make modifications to those plans and specifications.

(31) "Sediment" means solid material (both mineral and organic) that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface.

(32) "Sedimentation" means the settling and accumulation of unconsolidated sediment carried by storm water run-off.

(33) "Soil" means the unconsolidated mineral and organic material on the surface of the earth that serves as the natural medium for the growth of plants.

(34) "Soil and Water Conservation District" or "SWCD" means a political subdivision established under IC 14-32.

(35) "Storm water pollution prevention plan" means a plan developed to minimize the impact of storm water pollutants resulting from construction activities.

(36) "Storm water quality measure" means a practice, or a combination of practices, to control or minimize pollutants associated with storm water run-off.

(37) "Strip development" means a multi-lot project where building lots front on an existing road.

(38) "Subdivision" means any land that is divided or proposed to be divided into lots, whether contiguous or subject to zoning requirements, for the purpose of sale or lease as part of a larger common plan of development or sale.

(39) "Temporary stabilization" means the covering of soil to ensure its resistance to erosion, sliding, or other movement. The term includes vegetative cover, anchored mulch, or other nonerosive material applied at a uniform density of seventy percent (70%) across the disturbed area.

(40) "Tracking" means the deposition of soil that is transported from one (1) location to another by tires, tracks of vehicles, or other equipment.

(41) "Trained individual" means an individual who is trained and experienced in the principles of storm water quality, including erosion and sediment control as may be demonstrated by state registration, professional certification, experience, or completion of coursework that enable the individual to make judgments regarding storm water control or treatment and monitoring.

(Water Pollution Control Board; 327 IAC 15-5-4; filed Aug 31, 1992, 5:00 p.m.: 16 IR 23; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 834)

327 IAC 15-5-5 Notice of intent letter requirements

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 13-12-3-1; IC 13-18-1

Sec. 5. (a) The following information must be submitted by the project site owner with a complete NOI letter under this rule:

(1) Name, mailing address, and location of the project site for which the notification is submitted.

(2) The project site owner's name, address, telephone number, e-mail address (if available), ownership status as federal, state, public, private, or other entity.

(3) Contact person (if different than project site owner), person's name, company name, address, e-mail address (if available), and telephone number.

(4) A brief description of the construction project, including a statement of the total acreage of the project site. Total acreage claimed in the NOI letter shall be consistent with the acreage covered in the construction plan.

(5) Estimated dates for initiation and completion of construction activities. Within forty-eight (48) hours of the initiation of construction activity, the project site owner must notify the commissioner and the appropriate plan reviewing agency of the actual project start date.

- (6) The latitude and longitude of the approximate center of the project site to the nearest fifteen (15) seconds, and the nearest quarter section, township, range, and civil township in which the project site is located.
- (7) Total impervious surface area, in square feet, of the final project site including structures, roads, parking lots, and other similar improvements.
- (8) The number of acres to be involved in the construction activities.
- (9) Proof of publication in a newspaper of general circulation in the affected area that notified the public that a construction activity is to commence, that states, "(Company name, address) is submitting an NOI letter to notify the Indiana Department of Environmental Management of our intent to comply with the requirements under 327 IAC 15-5 to discharge storm water from construction activities for the following project: (name of the construction project, address of the location of the construction project). Run-off from the project site will discharge to (stream(s) receiving the discharge(s)).".
- (10) As applicable, a list of all MS4 areas designated under 327 IAC 15-13 within which the project site lies.
- (11) A written certification by the operator that:
 - (A) the storm water quality measures included in the construction plan comply with the requirements under sections 6.5, 7, and 7.5 of this rule and that the storm water pollution prevention plan complies with all applicable federal, state, and local storm water requirements;
 - (B) the measures required by section 7 of this rule will be implemented in accordance with the storm water pollution prevention plan;
 - (C) if the projected land disturbance is one (1) acre or more, the applicable soil and water conservation district or other entity designated by the department has been sent a copy of the construction plan for review;
 - (D) storm water quality measures beyond those specified in the storm water pollution prevention plan will be implemented during the life of the permit if necessary to comply with section 7 of this rule; and
 - (E) implementation of storm water quality measures will be inspected by trained individuals.
- (12) The name of receiving water or, if the discharge is to a municipal separate storm sewer, the name of the municipal operator of the storm sewer and the ultimate receiving water.
- (13) The NOI letter must be signed by a person meeting the signatory requirements in 327 IAC 15-4-3(g).
- (14) A notification from the SWCD, DNR-DSC, or other entity designated by the department as the reviewing agency indicating that the construction plans are sufficient to comply with this rule. This requirement may be waived if the project site owner has not received notification from the reviewing agency within the time frame specified in 327 IAC 15-5-6(b)(3).

(b) Send NOI letters to:

Attention: Rule 5 Storm Water Coordinator
 Indiana Department of Environmental Management
 Office of Water Quality, Urban Wet Weather Section
 100 North Senate Avenue
 P.O. Box 6015
 Indianapolis, Indiana 46206-6015.

(Water Pollution Control Board; 327 IAC 15-5-5; filed Aug 31, 1992, 5:00 p.m.: 16 IR 24; errata filed Sep 10, 1992, 12:00 p.m.: 16 IR 65; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 836)

327 IAC 15-5-6 Submittal of an NOI letter and construction plans

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4
 Affected: IC 13-12-3-1; IC 13-18-1

Sec. 6. (a) After the project site owner has received notification from the reviewing agency that the construction plans meet the requirements of the rule or the review period outlined in subsection (b)(3) has expired, all NOI letter information required under section 5 of this rule shall be submitted to the commissioner at least forty-eight (48) hours prior to the initiation of land disturbing activities at the site. A copy of the completed NOI letter must also be submitted to all SWCDs, or other entity designated by the department, where the land disturbing activities are to occur. If the NOI letter is determined to be deficient, the project site owner must address the deficient items and submit an amended NOI letter to the commissioner at the address specified in section 5 of this rule.

(b) For a project site where the proposed land disturbance is one (1) acre or more as determined under section 2 of this rule,

the following requirements must be met:

- (1) A construction plan must be submitted according to the following:
 - (A) Prior to the initiation of any land disturbing activities.
 - (B) Sent to the appropriate SWCD or other entity designated by the department for:
 - (i) review and verification that the plan meets the requirements of the rule; or
 - (ii) a single coordinated review in accordance with subsection (d)(3) if:
 - (AA) the construction activity will occur in more than one (1) SWCD; and
 - (BB) the project site owner has made a request for a single coordinated review.
- (2) If the construction plan required by subdivision (1) is determined to be deficient, the SWCD, DNR-DSC, or other entity designated by the department as the reviewing agency may require modifications, terms, and conditions as necessary to meet the requirements of the rule. The initiation of construction activity following notification by the reviewing agency that the plan does not meet the requirements of the rule is a violation and subject to enforcement action. If notification of a deficient plan is received after the review period outlined in subdivision (3) and following commencement of construction activities, the plans must be modified to meet the requirements of the rule and resubmitted within fourteen (14) days of receipt of the notification of deficient plans.
- (3) If the project site owner does not receive notification within twenty-eight (28) days after the plan is received by the reviewing agency stating that the reviewing agency finds the plan is deficient, the project site owner may submit the NOI letter information.
- (c) The following apply for a project where construction activity occurs inside a single MS4 area regulated under 327 IAC

15-13:

- (1) A copy of the completed NOI letter must be submitted to the appropriate MS4 operators.
- (2) The project site owner must comply with all appropriate ordinances and regulations within the MS4 area related to storm water discharges. The MS4 operator ordinance as required by 327 IAC 15-13-15(b) and 327 IAC 15-13-16(b) will be considered to have the same authority as this rule within the regulated MS4 area.
- (d) For a project that will occur in more than one (1) jurisdiction, such as an SWCD or regulated MS4 area, the following must

be met:

- (1) Project site owners of project sites occurring in multiple MS4 areas, but not in nondesignated areas, shall submit the information required in subsection (c) to each appropriate MS4 operator.
- (2) Project site owners of project sites occurring in one (1) or more MS4 areas and nondesignated areas shall submit the information required in subsections (a), (b), and (c) to all appropriate MS4 operators, and the SWCD or other entity designated by the department.
- (3) Project site owners of project sites occurring in multiple nondesignated areas, but not occurring within an MS4 area, may request a single coordinated review through the DNR-DSC office at the following address:

402 West Washington Street
Room W265
Indianapolis, Indiana 46204.

Upon acceptance of the request, the DNR-DSC will coordinate the plan review with appropriate SWCDs and other entities designated by the department. (*Water Pollution Control Board; 327 IAC 15-5-6; filed Aug 31, 1992, 5:00 p.m.: 16 IR 24; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 837*)

327 IAC 15-5-6.5 Requirements for construction plans

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4
Affected: IC 13-12-3-1; IC 13-18-1

Sec. 6.5. (a) For project sites that do not meet the criteria in subsection (b), the project site owner shall develop a set of construction plans. Storm water quality measures included in the plan must achieve the minimum project site requirements specified in section 7 of this rule. The construction plans must include the following:

- (1) Project narrative and supporting documents, including the following information:
 - (A) An index indicating the location, in the construction plans, of all information required by this subsection.
 - (B) Description of the nature and purpose of the project.

- (C) Legal description of the project site. The description should be to the nearest quarter section, township, and range, and include the civil township.
 - (D) Soil properties, characteristics, limitations, and hazards associated with the project site and the measures that will be integrated into the project to overcome or minimize adverse soil conditions.
 - (E) General construction sequence of how the project site will be built, including phases of construction.
 - (F) Hydrologic Unit Code (14 Digit) available from the United States Geological Survey (USGS).
 - (G) A reduced plat or project site map showing the lot numbers, lot boundaries, and road layout and names. The reduced map must be legible and submitted on a sheet or sheets no larger than eleven (11) inches by seventeen (17) inches for all phases or sections of the project site.
 - (H) Identification of any other state or federal water quality permits that are required for construction activities associated with the owner's project site.
- (2) Vicinity map depicting the project site location in relationship to recognizable local landmarks, towns, and major roads, such as a USGS topographic quadrangle map or county or municipal road map.
- (3) An existing project site layout that must include the following information:
- (A) Location and name of all wetlands, lakes, and water courses on or adjacent to the project site.
 - (B) Location of all existing structures on the project site.
 - (C) One hundred (100) year floodplains, floodway fringes, and floodways. Please note if none exists.
 - (D) Soil map of the predominant soil types, as determined by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, or an equivalent publication, or as determined by a soil scientist. A soil legend must be included with the soil map.
 - (E) Identification and delineation of vegetative cover, such as grass, weeds, brush, and trees, on the project site.
 - (F) Land use of all adjacent properties.
 - (G) Existing topography at a contour interval appropriate to indicate drainage patterns.
- (4) Final project site layout, including the following information:
- (A) Location of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas.
 - (B) One hundred (100) year floodplains, floodway fringes, and floodways. Please note if none exists.
 - (C) Proposed final topography at a contour interval appropriate to indicate drainage patterns.
- (5) A grading plan, including the following information:
- (A) Delineation of all proposed land disturbing activities, including off-site activities that will provide services to the project site.
 - (B) Location of all soil stockpiles and borrow areas.
 - (C) Information regarding any off-site borrow, stockpile, or disposal areas that are associated with a project site and under the control of the project site owner.
 - (D) Existing and proposed topographic information.
- (6) A drainage plan, including the following information:
- (A) An estimate of the peak discharge, based on the ten (10) year storm event, of the project site for both preconstruction and postconstruction conditions.
 - (B) Location, size, and dimensions of all storm water drainage systems, such as culverts, storm sewers, and conveyance channels.
 - (C) Locations where storm water may be directly discharged into ground water, such as abandoned wells or sinkholes. Please note if none exists.
 - (D) Locations of specific points where storm water discharge will leave the project site.
 - (E) Name of all receiving waters. If the discharge is to a separate municipal storm sewer, identify the name of the municipal operator and the ultimate receiving water.
 - (F) Location, size, and dimensions of features, such as permanent retention or detention facilities, including existing or manmade wetlands, used for the purpose of storm water management.
- (7) A storm water pollution prevention plan associated with construction activities. The plan must be designed to, at least, meet the requirements of sections 7 and 7.5 of this rule and must include the following:
- (A) Location, dimensions, detailed specifications, and construction details of all temporary and permanent storm water

quality measures.

(B) Temporary stabilization plans and sequence of implementation.

(C) Permanent stabilization plans and sequence of implementation.

(D) Temporary and permanent stabilization plans shall include the following:

(i) Specifications and application rates for soil amendments and seed mixtures.

(ii) The type and application rate for anchored mulch.

(E) Construction sequence describing the relationship between implementation of storm water quality measures and stages of construction activities.

(F) Self-monitoring program including plan and procedures.

(G) A description of potential pollutant sources associated with the construction activities, which may reasonably be expected to add a significant amount of pollutants to storm water discharges.

(H) Material handling and storage associated with construction activity shall meet the spill prevention and spill response requirements in 327 IAC 2-6.1.

(8) The postconstruction storm water pollution prevention plan. The plan must include the following information:

(A) A description of potential pollutant sources from the proposed land use, which may reasonably be expected to add a significant amount of pollutants to storm water discharges.

(B) Location, dimensions, detailed specifications, and construction details of all postconstruction storm water quality measures.

(C) A description of measures that will be installed to control pollutants in storm water discharges that will occur after construction activities have been completed. Such practices include infiltration of run-off, flow reduction by use of open vegetated swales and natural depressions, buffer strip and riparian zone preservation, filter strip creation, minimization of land disturbance and surface imperviousness, maximization of open space, and storm water retention and detention ponds.

(D) A sequence describing when each postconstruction storm water quality measure will be installed.

(E) Storm water quality measures that will remove or minimize pollutants from storm water run-off.

(F) Storm water quality measures that will be implemented to prevent or minimize adverse impacts to stream and riparian habitat.

(G) A narrative description of the maintenance guidelines for all postconstruction storm water quality measures to facilitate their proper long term function. This narrative description shall be made available to future parties who will assume responsibility for the operation and maintenance of the postconstruction storm water quality measures.

(b) For a single-family residential development consisting of four (4) or fewer lots or a single-family residential strip development where the developer offers for sale or lease without land improvements, and the project is not part of a larger common plan of development or sale, the project site owner shall develop a set of construction plans containing storm water quality measures which achieve the minimum project site requirements specified in section 7 of this rule. The construction plan must include the following:

(1) Project narrative and supporting documents, including the following information:

(A) An index indicating the location, in the construction plans, of all required items in this subsection.

(B) Description of the nature and purpose of the project.

(C) Legal description of the project site. The description should be to the nearest quarter section, township, and range, and include the civil township.

(D) Soil properties, characteristics, limitations, and hazards associated with the project site and the measures that will be integrated into the project to overcome or minimize adverse soil conditions.

(E) Hydrologic Unit Code (14 Digit) available from the United States Geological Survey (USGS).

(F) Identification of any other state or federal permits that are required for construction activities associated with the project site owner's project site.

(2) Vicinity map depicting the project site location in relationship to recognizable local landmarks, towns, and major roads, such as a USGS topographic quadrangle map or county or municipal road map.

(3) A project site layout that must include the following information:

(A) Location and name of all wetlands, lakes, and water courses on or adjacent to the project site.

(B) Location of all existing structures on the project site (if applicable).

- (C) One hundred (100) year floodplains, floodway fringes, and floodways. Please note if none exists.
 - (D) Soil map of the predominant soil types, as determined by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, or an equivalent publication, or as determined by a soil scientist. A soil legend must be included with the soil map.
 - (E) Identification and delineation of vegetative cover, such as grass, weeds, brush, and trees, on the project site.
 - (F) Land use of all adjacent properties.
 - (G) Existing and proposed topography at a contour interval appropriate to indicate drainage patterns.
 - (H) Location of all proposed site improvements, including roads, utilities, lot delineation and identification, and proposed structures.
- (4) A storm water pollution prevention plan associated with construction activities. The plan must be designed to, at least, meet the requirements of sections 7 and 7.5 of this rule and must include the following:
- (A) Delineation of all proposed land disturbing activities, including off-site activities that will provide services to the project site.
 - (B) Location of all soil stockpiles and borrow areas.
 - (C) Location, size, and dimensions of all storm water drainage systems, such as culverts, storm sewers, and conveyance channels.
 - (D) Locations where storm water may be directly discharged into ground water, such as abandoned wells or sinkholes. Please note if none exist.
 - (E) Locations of specific points where storm water discharge will leave the project site.
 - (F) Name of all receiving waters. If the discharge is to a separate municipal storm sewer, identify the name of the municipal operator and the ultimate receiving water.
 - (G) Location, dimensions, detailed specifications, and construction details of all temporary and permanent storm water quality measures.
 - (H) Temporary stabilization plans and sequence of implementation of storm water quality measures.
 - (I) Temporary and permanent stabilization plans shall include the following:
 - (i) Specifications and application rates for soil amendments and seed mixtures.
 - (ii) The type and application rate for anchored mulch.
 - (J) Self-monitoring program plan and procedures.
- (c) The SWCD or the DNR-DSC representative or other designated entity may upon finding reasonable cause require modification to the construction plan if it is determined that changes are necessary due to site conditions or project design changes. Revised plans, if requested, must be submitted to the appropriate entity within twenty-one (21) calendar days of a request for a modification. (*Water Pollution Control Board; 327 IAC 15-5-6.5; filed Oct 27, 2003, 10:15 a.m.; 27 IR 838*)

327 IAC 15-5-7 General requirements for storm water quality control

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 13-12-3-1; IC 13-18-1

Sec. 7. (a) All storm water quality measures and erosion and sediment controls necessary to comply with this rule must be implemented in accordance with the construction plan and sufficient to satisfy subsection (b).

(b) A project site owner shall, at least, meet the following requirements:

- (1) Sediment-laden water which otherwise would flow from the project site shall be treated by erosion and sediment control measures appropriate to minimize sedimentation.
- (2) Appropriate measures shall be implemented to minimize or eliminate wastes or unused building materials, including garbage, debris, cleaning wastes, wastewater, concrete truck washout, and other substances from being carried from a project site by run-off or wind. Identification of areas where concrete truck washout is permissible must be clearly posted at appropriate areas of the site. Wastes and unused building materials shall be managed and disposed of in accordance with all applicable statutes and regulations.
- (3) A stable construction site access shall be provided at all points of construction traffic ingress and egress to the project site.
- (4) Public or private roadways shall be kept cleared of accumulated sediment that is a result of run-off or tracking. Bulk clearing of sediment shall not include flushing the area with water. Cleared sediment shall be redistributed or disposed of in

a manner that is in accordance with all applicable statutes and regulations.

(5) Storm water run-off leaving a project site must be discharged in a manner that is consistent with applicable state or federal law.

(6) The project site owner shall post a notice near the main entrance of the project site. For linear project sites, such as a pipeline or highway, the notice must be placed in a publicly accessible location near the project field office. The notice must be maintained in a legible condition and contain the following information:

(A) Copy of the completed NOI letter and the NPDES permit number, where applicable.

(B) Name, company name, telephone number, e-mail address (if available), and address of the project site owner or a local contact person.

(C) Location of the construction plan if the project site does not have an on-site location to store the plan.

(7) This permit and posting of the notice under subdivision (6) does not provide the public with any right to trespass on a project site for any reason, nor does it require that the project site owner allow members of the public access to the project site.

(8) The storm water pollution prevention plan shall serve as a guideline for storm water quality, but should not be interpreted to be the only basis for implementation of storm water quality measures for a project site. The project site owner is responsible for implementing, in accordance with this rule, all measures necessary to adequately prevent polluted storm water run-off.

(9) The project site owner shall inform all general contractors, construction management firms, grading or excavating contractors, utility contractors, and the contractors that have primary oversight on individual building lots of the terms and conditions of this rule and the conditions and standards of the storm water pollution prevention plan and the schedule for proposed implementation.

(10) Phasing of construction activities shall be used, where possible, to minimize disturbance of large areas.

(11) Appropriate measures shall be planned and installed as part of an erosion and sediment control system.

(12) All storm water quality measures must be designed and installed under the guidance of a trained individual.

(13) Collected run-off leaving a project site must be either discharged directly into a well-defined, stable receiving channel or diffused and released to adjacent property without causing an erosion or pollutant problem to the adjacent property owner.

(14) Drainage channels and swales must be designed and adequately protected so that their final gradients and resultant velocities will not cause erosion in the receiving channel or at the outlet.

(15) Natural features, including wetlands and sinkholes, shall be protected from pollutants associated with storm water run-off.

(16) Unvegetated areas that are scheduled or likely to be left inactive for fifteen (15) days or more must be temporarily or permanently stabilized with measures appropriate for the season to minimize erosion potential. Alternative measures to site stabilization are acceptable if the project site owner or their representative can demonstrate they have implemented erosion and sediment control measures adequate to prevent sediment discharge. Vegetated areas with a density of less than seventy percent (70%) shall be restabilized using appropriate methods to minimize the erosion potential.

(17) During the period of construction activities, all storm water quality measures necessary to meet the requirements of this rule shall be maintained in working order.

(18) A self-monitoring program that includes the following must be implemented:

(A) A trained individual shall perform a written evaluation of the project site:

- (i) by the end of the next business day following each measurable storm event; and
- (ii) at a minimum of one (1) time per week.

(B) The evaluation must address:

- (i) the maintenance of existing storm water quality measures to ensure they are functioning properly; and
- (ii) identify additional measures necessary to remain in compliance with all applicable statutes and rules.

(C) Written evaluation reports must include:

- (i) the name of the individual performing the evaluation;
- (ii) the date of the evaluation;
- (iii) problems identified at the project site; and
- (iv) details of corrective actions recommended and completed.

(D) All evaluation reports for the project site must be made available to the inspecting authority within forty-eight (48) hours of a request.

(19) Proper storage and handling of materials, such as fuels or hazardous wastes, and spill prevention and clean-up measures shall be implemented to minimize the potential for pollutants to contaminate surface or ground water or degrade soil quality.

(20) Final stabilization of a project site is achieved when:

(A) all land disturbing activities have been completed and a uniform (for example, evenly distributed, without large bare areas) perennial vegetative cover with a density of seventy percent (70%) has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures have been employed; and

(B) construction projects on land used for agricultural purposes are returned to its preconstruction agricultural use or disturbed areas, not previously used for agricultural production, such as filter strips and areas that are not being returned to their preconstruction agricultural use, meet the final stabilization requirements in clause (A).

(Water Pollution Control Board; 327 IAC 15-5-7; filed Aug 31, 1992, 5:00 p.m.: 16 IR 24; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 840)

327 IAC 15-5-7.5 General requirements for individual building lots within a permitted project

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 13-12-3-1; IC 13-18-1

Sec. 7.5. (a) All storm water quality measures, including erosion and sediment control, necessary to comply with this rule must be implemented in accordance with the plan and sufficient to satisfy subsection (b).

(b) Provisions for erosion and sediment control on individual building lots regulated under the original permit of a project site owner must include the following requirements:

(1) The individual lot operator, whether owning the property or acting as the agent of the property owner, shall be responsible for erosion and sediment control requirements associated with activities on individual lots.

(2) Installation and maintenance of a stable construction site access.

(3) Installation and maintenance of appropriate perimeter erosion and sediment control measures prior to land disturbance.

(4) Sediment discharge and tracking from each lot must be minimized throughout the land disturbing activities on the lot until permanent stabilization has been achieved.

(5) Clean-up of sediment that is either tracked or washed onto roads. Bulk clearing of sediment shall not include flushing the area with water. Cleared sediment must be redistributed or disposed of in a manner that is in compliance with all applicable statutes and rules.

(6) Adjacent lots disturbed by an individual lot operator must be repaired and stabilized with temporary or permanent surface stabilization.

(7) For individual residential lots, final stabilization meeting the criteria in section 7(b)(20) of this rule will be achieved when the individual lot operator:

(A) completes final stabilization; or

(B) has installed appropriate erosion and sediment control measures for an individual lot prior to occupation of the home by the homeowner and has informed the homeowner of the requirement for, and benefits of, final stabilization.

(Water Pollution Control Board; 327 IAC 15-5-7.5; filed Oct 27, 2003, 10:15 a.m.: 27 IR 843)

327 IAC 15-5-8 Project termination

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 13-12-3-1; IC 13-18-1

Sec. 8. (a) The project site owner shall plan an orderly and timely termination of the construction activities, including the implementation of storm water quality measures that are to remain on the project site.

(b) The project site owner shall submit a notice of termination (NOT) letter to the commissioner and a copy to the appropriate SWCD or other designated entity in accordance with the following:

(1) Except as provided in subdivision (2), the project site owner shall submit an NOT letter when the following conditions have been met:

(A) All land disturbing activities, including construction on all building lots, have been completed and the entire site

has been stabilized.

(B) All temporary erosion and sediment control measures have been removed.

The NOT letter must contain a verified statement that each of the conditions in this subdivision has been met.

(2) The project site owner may submit an NOT letter to obtain early release from compliance with this rule if the following conditions are met:

(A) The remaining, undeveloped acreage does not exceed five (5) acres, with contiguous areas not to exceed one (1) acre.

(B) A map of the project site, clearly identifying all remaining undeveloped lots, is attached to the NOT letter. The map must be accompanied by a list of names and addresses of individual lot owners or individual lot operators of all undeveloped lots.

(C) All public and common improvements, including infrastructure, have been completed and permanently stabilized and have been transferred to the appropriate local entity.

(D) The remaining acreage does not pose a significant threat to the integrity of the infrastructure, adjacent properties, or water quality.

(E) All permanent storm water quality measures have been implemented and are operational.

(c) Following acceptance of the NOT letter and written approval from the department for early release under subsection (b), the project site owner shall notify all current individual lot owners and all subsequent individual lot owners of the remaining undeveloped acreage and acreage with construction activity that they are responsible for complying with section 7.5 of this rule. The remaining individual lot owners do not need to submit an NOI letter or NOT letter. The notice must contain a verified statement that each of the conditions in subsection (b)(2) have been met. The notice must also inform the individual lot owners of the requirements to:

(1) install and maintain appropriate measures to prevent sediment from leaving the individual building lot; and

(2) maintain all erosion and sediment control measures that are to remain on-site as part of the construction plan.

(d) The SWCD, DNR-DSC, other entity designated by the department or a regulated MS4 entity, or the department may inspect the project site to evaluate the adequacy of the remaining storm water quality measures and compliance with the NOT letter requirements. If the inspecting entity finds that the project site owner has sufficiently filed an NOT letter, the entity shall forward notification to the department. Upon receipt of the verified NOT letter by the department and receipt of written approval from the department, the project site owner shall no longer be responsible for compliance with this rule.

(e) After a verified NOT letter has been submitted for a project site, maintenance of the remaining storm water quality measures shall be the responsibility of the individual lot owner or occupier of the property. (*Water Pollution Control Board; 327 IAC 15-5-8; filed Aug 31, 1992, 5:00 p.m.: 16 IR 25; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 843*)

327 IAC 15-5-9 Standard conditions

Authority: IC 13-1-3-4; IC 13-1-3-7; IC 13-7-7; IC 13-7-10-1

Affected: IC 13-1-3; IC 13-7

Sec. 9. The standard conditions for NPDES general permit rules under 327 IAC 15-4 shall apply to this rule. (*Water Pollution Control Board; 327 IAC 15-5-9; filed Aug 31, 1992, 5:00 p.m.: 16 IR 26; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518*)

327 IAC 15-5-10 Inspection and enforcement

Authority: IC 13-13-5-2; IC 13-15-1-2; IC 13-15-2-1; IC 13-18-3-1; IC 13-18-3-2; IC 13-18-3-3; IC 13-18-3-13; IC 13-18-4-1; IC 13-18-4-3

Affected: IC 13-14-10; IC 13-15-7; IC 13-18-3; IC 13-18-4; IC 13-30

Sec. 10. (a) The department or its designated representative may inspect any project site involved in construction activities regulated by this rule at reasonable times. The department or its designated representatives may make recommendations to the project site owner or their representative to install appropriate measures beyond those specified in the storm water pollution prevention plan to achieve compliance.

(b) All persons engaging in construction activities on a project site shall be responsible for complying with the storm water

pollution prevention plan and the provisions of this rule.

(c) The department shall investigate potential violations of this rule to determine which person may be responsible for the violation. The department shall, if appropriate, consider public records of ownership, building permits issued by local units of government, and other relevant information, which may include site inspections, storm water pollution prevention plans, notices of intent, and other information related to the specific facts and circumstances of the potential violation. Any person causing or contributing to a violation of any provisions of this rule shall be subject to enforcement and penalty under IC 13-14-10, IC 13-15-7, and IC 13-30.

(d) If remaining storm water quality measures are not properly maintained by the person occupying or owning the property, the department may pursue enforcement against that person for correction of deficiencies under 327 IAC 15-1-4.

(e) Construction plans and supporting documentation associated with the quality assurance plan must be made available to the department or its designated representatives within forty-eight (48) hours of such a request. (*Water Pollution Control Board; 327 IAC 15-5-10; filed Aug 31, 1992, 5:00 p.m.: 16 IR 26; filed Mar 23, 2000, 4:15 p.m.: 23 IR 1912; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 844*)

327 IAC 15-5-11 Notification of completion (Repealed)

Sec. 11. (*Repealed by Water Pollution Control Board; filed Oct 27, 2003, 10:15 a.m.: 27 IR 863*)

327 IAC 15-5-12 Duration of coverage

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 13-12-3-1; IC 13-18-1

Sec. 12. (a) A permit issued under this rule is granted by the commissioner for a period of five (5) years from the date coverage commences.

(b) Once the five (5) year permit term duration is reached, a general permit issued under this rule will be considered expired, and, as necessary for construction activity continuation, a new NOI letter would need to be submitted in accordance with subsection (c).

(c) To obtain renewal of coverage under this rule, the information required under sections 5 and 6 of this rule must be submitted to the commissioner ninety (90) days prior to the termination of coverage under this NPDES general permit rule, unless the commissioner determines that a later date is acceptable. Coverage under renewal NOI letters will begin on the date of expiration from the previous five (5) year permit term. (*Water Pollution Control Board; 327 IAC 15-5-12; filed Oct 27, 2003, 10:15 a.m.: 27 IR 844*)

Rule 6. Storm Water Discharges Exposed to Industrial Activity

327 IAC 15-6-1 Purpose

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 13-12-3-1; IC 13-18-1

Sec. 1. The purpose of this rule is to establish requirements for storm water discharges exposed to industrial activity that are composed entirely of storm water and allowable nonstorm water so that the public health, existing water uses, and aquatic biota are protected. (*Water Pollution Control Board; 327 IAC 15-6-1; filed Aug 31, 1992, 5:00 p.m.: 16 IR 26; readopted filed Jan 10, 2001, 3:23 p.m.: 24 IR 1518; filed Oct 27, 2003, 10:15 a.m.: 27 IR 845*)

327 IAC 15-6-2 Applicability of the general permit rule for storm water discharges exposed to industrial activity

Authority: IC 13-14-8; IC 13-15-1-2; IC 13-15-2; IC 13-18-3; IC 13-18-4

Affected: IC 4-21.5; IC 13-12-3-1; IC 13-18-1

Sec. 2. (a) Except as provided in subsections (c), (d), (e), (f), (g), (h), (i), and (j), the requirements under this rule apply to all facilities that meet the following requirements:



Division of Water
Indiana Department of Natural Resources
Hydraulic Modeling Checklist



This checklist will assist the staff at the Division of Water in the review of modeling for the definition of the floodway, for evaluation of a Construction in a Floodway permit application, for state concurrence of a Letter of Map Revision or a Flood Insurance Study or any other modeling that is submitted for review. The checklist items are based on the document "General Guidelines for the Hydrologic-Hydraulic Assessment of Floodplains in Indiana." The modeler should be familiar with this document and any discrepancies between the general guidelines and the submitted modeling should be discussed with the Division of Water Engineering Services staff prior to submittal.

This completed checklist must be submitted to the Division of Water along with your models. The Division of Water will not review any modeling submittal that is not accompanied by a completed checklist.

Please keep in mind that these questions were written primarily for the application of HEC-RAS computer models. HEC-RAS is preferred by the Division of Water, however, other modeling programs may be used provided their use has been discussed previously with Division of Water Staff. Should you have any questions, please contact Division of Water staff at (317) 232-4160 or toll free at (877) 928-3755.

1. General Information

- a. Preparer Name: _____
(Name of individual who prepared the submitted modeling)
- b. Preparer Firm: _____
- c. Date: _____

2. Project Location and Background Information

- a. Waterbody Name: _____
(Use name as shown on USGS 7 1/2 minute quadrangle)
- b. Location Description: _____
(Example: Along the west bank of Blank Creek beginning at Culvert Avenue and extending upstream (north) approximately 2,000 feet to C.R. 700 North)
- c. Nearest Town/City: _____
- d. County: _____
- e. Downstream End of Project Location:
Section: _____ Township: _____ Range: _____ Quadrangle: _____
(if the project is in a grant, reserve or donation, check here and give information below) ☐

Waterbody Name: _____
Preparer: _____
Date: _____

Upstream End of Project Location:

Section: _____ Township: _____ Range: _____ Quadrangle: _____
(if the project is in a grant, reserve or donation, check here and give information below) ☐

- f. Study Reach Location: Downstream Limit _____ (unit of distance)
Upstream Limit _____ (unit of distance)

(Limits should be measured in miles from the mouth of the stream or use units of distance consistent with published flood study. The Division of Water has mileage on many streams.)

- g. Type of Model

☐ HEC-RAS ☐ HEC-2 ☐ WSPRO ☐ WSP2 ☐ HY-8

Other _____

- h. Published Flood Insurance model (Name, Study Reach and Date) _____

- i. IDNR model (Name, Study Reach and Date) _____

- j. Previous FARA / Floodway Permits within study reach (Application Number and Approval Date)

1. _____
2. _____
3. _____
4. _____
5. _____

3. Request Information

Please indicate for what purpose the models are submitted for review and approval:

- ☐ Floodway / Base Flood Elevation Determination (FARA)
☐ Construction in a Floodway Application
☐ Letter of Map Revision (LOMR)
☐ Flood Insurance Study modeling
☐ Other (please describe) _____

Waterbody Name: _____
Preparer: _____
Date: _____

4. Discharges

The source of the 100-year frequency flood discharges used in a hydraulic model need to be fully documented by completing the questions listed below.

It is strongly suggested that a preparer-determined 100-year discharge be submitted for approval prior to the submittal of hydraulic models. Discharge determinations and hydraulic models are considered to be separate items, each subject to review.

a. What is the source of the discharges used in the submitted model *(Please check one)*:

- ☐ Discharges based on a curve published in "Coordinated Discharges of Selected Streams in Indiana"
(Please attach copy of applicable graph)
- ☐ Discharges based on a determination from the Department of Natural Resources
(Please attach copy of letter from IDNR)
- ☐ Discharges based on hydrologic analyses submitted with this model
(Please attach a copy of the IDNR approval letter)
- ☐ Discharges from a Flood Insurance Study
- ☐ Discharges from other modeling *(Indicate source)* _____

b. Table of Discharges used in the model *(Expand table as needed)*

Drainage Area (sq. mi.)	Discharge (cfs)	Cross-Section / Location Where Discharge is Specified

c. Comments regarding discharge determination:

Waterbody Name: _____
Preparer: _____
Date: _____

5. Starting Elevation / Boundary Conditions

Complete the following section fully to document the starting elevations and boundary conditions for starting the model:

a. Boundary condition used to derive starting elevations: *(Please check one)*

- ☐ Known water surface *(Indicate source):* _____
☐ Energy slope estimated from historic flood profile *(Indicate date):* _____
☐ Energy slope estimated from stream thalweg *(Indicate mapping used):* _____
☐ Other *(Please Describe):* _____

b. Description (show any calculations):

6. Manning's Roughness Coefficients ("n" Values)

Complete the following section fully to document the Manning's roughness coefficients:

a. How were the roughness coefficients estimated? *(Check all that apply)*

- ☐ Flood Insurance Study
☐ Other modeling
☐ Field inspection
☐ Site photos
☐ Aerial photography or mapping
☐ Calibration
☐ Other *(Describe)* _____

b. What is the range of the roughness coefficients?

Left Overbank	Minimum _____	Maximum _____
Channel	Minimum _____	Maximum _____
Right Overbank	Minimum _____	Maximum _____

c. Are proposed roughness coefficients different from the base roughness coefficients?

☐ Yes ☐ No

Note: In most cases, the Department will not approve modeling based on an "improved" condition. If the "Yes" box is checked, you will need to justify the use of the modified roughness coefficients below. It is strongly suggested that these issues should be discussed with personnel at the Department prior to submittal.

Waterbody Name: _____
Preparer: _____
Date: _____

d. Description of "n" values

Please further describe the methods checked above that were used to estimate the roughness coefficients. If they are estimated from photos, please attach copies of the photos, along with an orientation map. If the roughness coefficients are estimated by calibration, please submit supporting documentation.

e. Check-RAS

For HEC-RAS models, please run the "NT" report from Check-RAS and attach it to this checklist. List any comments in the model and justification for not correcting these comments (use additional sheets, if necessary):

Waterbody Name: _____
Preparer: _____
Date: _____

7. Cross Sections

The following questions have to do with the cross section information that is the basis of the submitted modeling:

- a. What is the source of the cross section information (check all that apply):
- ☐ Flood Insurance Study
 - ☐ Field survey (Date) _____
 - ☐ Detailed topographic mapping (Date) _____
 - ☐ Other modeling (Indicate source) _____
 - ☐ Other (please specify) _____
- b. Are cross sections stationed increasing from left to right looking downstream?
- ☐ Yes ☐ No
- c. How are sections labeled (check one) (Note: The following list is in order of preference)
- ☐ Consistent with FIS / other studies
 - ☐ Miles above mouth
 - ☐ Feet above other landmark (Please specify landmark) _____
 - ☐ Other (Please specify) _____
- d. Are sections oriented perpendicular to flow at all portions of the cross section?
- ☐ Yes ☐ No
- e. Are the full cross section extents shown on submitted mapping?
- ☐ Yes ☐ No
- f. Do the cross sections extend fully across the floodplain (above expected 100-year flood elevations)?
- ☐ Yes ☐ No
- g. Do the cross sections represent average conditions in the reach at which they are located?
- ☐ Yes ☐ No
- h. Are areas of blocked or ineffective flow indicated on the submitted cross sections?
- ☐ Yes ☐ No
- i. Are cross sections located at places where discharge values change along the stream reach?
- ☐ Yes ☐ No

Waterbody Name: _____
Preparer: _____
Date: _____

8. Bridges

The following questions should be answered for each bridge in the model being submitted. Use a separate sheet for each bridge

- a. Name of Bridge in model: _____
- b. Bridge cross-section locations (See Section 8.9 of the Guidelines for location of bridge sections):
- | | |
|-----------|-----------------------------|
| Section 1 | Cross-section number: _____ |
| Section 2 | Cross-section number: _____ |
| Section 3 | Cross-section number: _____ |
| Section 4 | Cross-section number: _____ |
- c. Is this model submitted in support of a Construction in a Floodway application for the bridge in question?
☐ Yes ☐ No
- d. If the answer to c is "yes," then are the same number of sections used in the existing (or pre-project) and proposed (or post-project) model?
☐ Yes ☐ No ☐ N/A
- e. Do the cross sections extend across the entire valley to the 100-year frequency flood elevation?
☐ Yes ☐ No
- f. Is cross section 1 located at a 2:1 flow expansion ratio downstream of the bridge face?
☐ Yes ☐ No
- g. Is cross section 4 located at a 1:1 flow contraction ratio upstream of the bridge face?
☐ Yes ☐ No
- h. Have the expansion / contraction coefficients been adjusted to reflect the effects of the bridge?
☐ Yes ☐ No
- i. Were effective flow limits set at sections 2 and 3?
☐ Yes ☐ No
- j. What is the selected modeling method (for the 100-year frequency flood only)
- | | |
|--------------------------|----------------------------------|
| <input type="checkbox"/> | Energy (Low flow) |
| <input type="checkbox"/> | Momentum (Low flow) |
| <input type="checkbox"/> | WSPRO (Low flow) |
| <input type="checkbox"/> | Energy (High flow) |
| <input type="checkbox"/> | Pressure / Weir flow (High flow) |
- k. Does approach roadway profile data extend across the full valley cross section?
☐ Yes ☐ No

Waterbody Name: _____
Preparer: _____
Date: _____

l. Are bridge piers included in the model?

☐

Yes

☐

No

m. Were HEC-RAS default embankment side slopes applied at all bridge crossings in the model?

☐

Yes

☐

No

n. For all "No" answer above, please provide an explanation:

o. Check-RAS

For HEC-RAS models, please run the "Structure" report from Check-RAS and attach it to this checklist. List any comments in the model and justification for not correcting these comments (use additional sheets, if necessary):

Waterbody Name: _____
Preparer: _____
Date: _____

9. Culverts

The following questions should be answered for each culvert in the model being submitted. Use a separate sheet for each culvert:

- a. Name of Culvert in model: _____
- b. Cross section locations (See Section 8.9 and 8.10 of the Guidelines for the location of culvert sections):
- | | |
|-----------|-----------------------------|
| Section 1 | Cross section number: _____ |
| Section 2 | Cross section number: _____ |
| Section 3 | Cross section number: _____ |
| Section 4 | Cross section number: _____ |
- c. Is this model submitted in support of a Construction in a Floodway application for the culvert in question?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- d. If the answer to c is "yes," then is the same number of sections used in the existing (or pre-project) and proposed (or post-project) model?
- | | | | | | |
|--------------------------|-----|--------------------------|----|--------------------------|-----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | <input type="checkbox"/> | N/A |
|--------------------------|-----|--------------------------|----|--------------------------|-----|
- e. Do the cross sections extend across the entire valley to the 100-year frequency flood elevation?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- f. Is cross-section 1 located at a 2:1 flow expansion ratio downstream of the culvert?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- g. Is cross-section 4 located at a 1:1 flow contraction ratio upstream of the culvert?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- h. Have the expansion / contraction coefficients been adjusted to reflect the effects of the culvert?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- i. Were effective flow limits set at sections 2 and 3?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- j. Does approach roadway profile data extend across the full valley cross section?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|
- k. Were HEC-RAS default embankment side slopes applied at all culvert crossings in the model?
- | | | | |
|--------------------------|-----|--------------------------|----|
| <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
|--------------------------|-----|--------------------------|----|

Waterbody Name: _____
Preparer: _____
Date: _____

- l. For all "No" answer above, please provide an explanation:

- m. Check-RAS

For HEC-RAS models, please run the "Structure" report from Check-RAS and attach it to this checklist. List any comments in the model and justification for not correcting these comments (use additional sheets, if necessary):

Waterbody Name: _____
Preparer: _____
Date: _____

10. Floodways

Has floodway determination been done in accordance with Section 8.12 of the Guidelines?

☐

Yes

☐

No

☐

N/A

11. Model Output

For all model outputs review the "errors and warnings" and address those comments not already addressed.

12. Documentation

Submitted documentation (*Check all that apply*):

☐

Narrative regarding modeling

☐

Application Forms and/or LOMR Application Forms

☐

Pictures of stream reach (*w/ orientation map*)

☐

FIS map / profile

☐

Previous FARA/Floodway permits in study reach (*Including maps*)

☐

Check-RAS output

☐

Cross Section plots

☐

HEC-RAS "Standard Table 1"

☐

HEC-RAS "Encroachment 1" table (*Show where the 0.14' surcharge occurs*)

☐

Profile plots

☐

Summary of Modeling and Project Evaluation Results (*Mandatory – See Figure 3.1*)

☐

Floodplain mapping including:

☐

Stream in question (*Along with other hydrographic features*)

☐

Roads (*With street names*)

☐

Existing features (*Buildings, parking lots, woods, etc*)

Waterbody Name: _____
Preparer: _____
Date: _____

- ☐ The full extent of each cross section included in the model, with each cross section clearly labeled *(Include the location of initial and end points as used in the model)*
- ☐ Contour topographic data *(If available)*
- ☐ Property limits *(Approximate property limits are acceptable only if surcharges are 0.14' or less at all cross sections)*
- ☐ North arrow
- ☐ Scale *(Numerical and graphical)*
- ☐ Horizontal and vertical control benchmark used *(See Section 5.4 of the Guidelines for benchmark guidance.)*
- ☐ Horizontal and vertical datums
- ☐ Delineated flood fringe and floodway limits

(The flood fringe and floodway should be shaded so that it is obvious to the reviewer what areas are flood fringe and floodway, but not shaded so dark that other features are obscured. For multi-colored plans, the Division of Water convention is to shade the flood fringe blue and the floodway yellow. See Section 8.12 of the Guidelines for delineation guidance.)

- ☐ Disk with input data and model output *(Check all that apply)*
 - ☐ Base Condition (FIS, IDNR Regulatory) File name: _____
 - ☐ Duplicate Effective File name: _____
 - ☐ Corrected Effective File name: _____
 - ☐ Existing (Pre-project) File name: _____
 - ☐ Proposed (Post-project) File name: _____

Waterbody Name: _____
Preparer: _____
Date: _____

13. Affirmation

By signing this document you are indicating that the submitted models have been developed and reviewed in accordance with accepted Division of Water procedures, that should the Division of Water find inconsistencies between your submitted models and the checklist, you will be notified in writing of the deficiencies and given 90 days to correct these problems; and that if after 90 days these inconsistencies still exist, you will be notified that your model is unacceptable and the Department will take no further action if the request is for a FARA, or issue a denial notice if the request is associated with a permit application.

Date:

Signature

Name

Firm

Division of Water Use Only

Date Received _____

File Number _____

Reviewer _____

Date reviewed _____

☐ Approved

☐ Rejected

Section Manager Review _____

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
LOCATION DESCRIPTION		PUBLISHED OR EFFECTIVE DATA (Ft., NGVD) (Based on FIS Table, LOMR, or Profile)	MODELING RESULTS				COMPARISONS			NOTES
Model Cross Section	Location Description		Duplicate Effective Model (Ft., NGVD) (File/Plan Name)	Corrected Effective Model (Ft., NGVD) (File/Plan Name)	Existing/ Pre-project Model (Ft., NGVD) (File/Plan Name)	Proposed/ Post-project Model (Ft., NGVD) (File/Plan Name)	Cumulative Impacts w/o Project (ft) (6)-(5)	Cumulative Impacts with Project (ft) (7)-(5)	Project Impacts (ft) (7)-(6)	
1	D/s end of the study reach	449.36	449.36	449.36	449.36	449.36	0.00	0.00	0.00	
2	...	450.00	450.00	450.00	450.00	450.00	0.00	0.00	0.00	
2.5	...			450.45	450.50	450.50	0.05	0.05	0.00	
3	...	450.80	450.80	450.80	450.80	450.80	0.00	0.00	0.00	
3.1	D/s property limit			451.20	451.20	451.22	0.00	0.02	0.02	
3.3	...			451.30	451.30	451.34	0.00	0.04	0.04	
3.5	...			451.90	451.90	452.00	0.00	0.10	0.10	
3.7	U/s property limit			452.10	452.10	452.17	0.00	0.07	0.07	
4	...	452.60	452.60	452.60	452.60	452.67	0.00	0.07	0.07	
4.5	...			453.10	453.30	453.30	0.20	0.20	0.00	
5	U/s end of the study reach	453.37	453.37	453.37	453.37	453.37	0.00	0.00	0.00	

